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NORA Tackles Misguided Regulation



NORA Conference & Trade Show
Preview: See pages 24-39

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279 Under Attack

In late July, NORA became aware of a significant threat to Part 279.

During their hazardous waste program reauthorization, the Vermont Department of Environmental Conservation (VDEC) added a section which would only allow oily wastewater to be managed as used oil if it has greater than 50% used oil. If the used oil was less than 50% and has any hazardous characteristics, it would be managed as hazardous waste.

The Threat to 279

In Vermont, the *proposal would undermine the entire existing used oil regulatory frame work*. If approved, Vermont would be the only state that would implement this Draconian requirement that automatically transforms oily wastewater into hazardous waste.

For NORA members in all other states, this is also a real threat for two reasons:

- Vermont could become a precedent for other states to implement
- NORA was informed by a VDEC representative *they believe the US EPA is looking into this and considering taking action within the next two years*. (NORA has not yet independently confirmed this).

NORA's Action

The Vermont proposal is a real and direct threat to NORA's mission and its members.

During the month of August, NORA took significant action to try to nip this major threat in the bud:

- August 3rd: Informed all members.
- August 5th: NORA convened the Used Oil Council and Wastewater Working Group leaders. They recommended that NORA should comment on this.
- August 5th: NORA's Executive Committee approved developing comments.
- August 10th: I flew to Vermont to provide initial oral comments to VDEC.
- August 11th - August 20th: NORA team of members developed written comments.
- August 20th: NORA submitted formal written comments to Vermont.

Vermont has indicated they expect to make final decisions by October/November. We will address this issue in full detail at the upcoming NORA Conference in Orlando.

NORA members provide the association the ability to address serious threats like this in a forceful and effective way.

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INDUSTRY CALENDAR

(meeting dates are tentative and subject to change)

2021

NORA Annual Conference & Trade Show

November 10-13, 2021

Orlando, Florida

AOCA iFlex

November 15-17, 2021

Las Vegas, Nevada

2022

NAPA Annual Meeting

January 23-26, 2022

Scottsdale, Arizona



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Industry News

MORE INFORMATION ABOUT THESE NEWS ITEMS IS AVAILABLE AT WWW.NORANEWS.ORG/NEWS.
SEND ANY INDUSTRY NEWS UPDATES TO COMMUNICATIONS@NORANEWS.ORG.

Vertex To Sell Used Oil Collection/ Recycling Assets to Safety-Kleen

NORA Member Vertex Energy announced it has entered into a definitive agreement to sell its portfolio of used motor oil collection and recycling assets to NORA Member Safety-Kleen Systems, Inc., a subsidiary of Clean Harbors, Inc. for a total cash consideration of \$140 million. The transaction is expected to close during the third quarter 2021. Under the terms of the Agreement, Safety-Kleen will acquire the 69 million gallon per year Marrero used oil refinery in Louisiana; the 20 million gallon per year Heartland used oil refinery in Ohio; the H&H and Heartland used oil collections business; the Nickco oil filters and absorbent materials recycling facility in East Texas; and the Cedar Marine terminal in Baytown, Texas.



Gulf Coast re-refining facility. The USGC Facility will serve as the foundation for ReGen III's future growth plans.

Vertex Energy To Acquire Alabama Refinery and Related Logistics Assets

NORA member, Vertex Energy, Inc., a specialty refiner and marketer of high-quality refined products, today announced that it has entered into a definitive agreement to acquire the Mobile refinery located in Mobile, Alabama from Equilon Enterprises LLC d/b/a Shell Oil Products US, Shell Oil Company and Shell Chemical LP, subsidiaries of Royal Dutch Shell plc, for \$75 million. The transaction is expected to close during the fourth quarter 2021, subject to regulatory clearance and various closing conditions.



Valicor Environmental Services Acquires EnviroSolids

NORA Member Valicor Environmental Services recently announced it has acquired NORA Member EnviroSolids, LLC and its affiliated companies. The addition of EnviroSolids, a leader in sustainable, non-hazardous waste and recycling services, supplements Valicor's network of responsible wastewater processing facilities in the Midwest. "With the addition of the EnviroSolids business to our leading platform, Valicor strengthens its commitment to environmentally responsible services as we serve both new and existing customers," stated Bill Hinton, Senior Advisor of Corporate Development at Valicor.



Trihydro Corporation Acquires California-Based Jacobson James & Associates

NORA member, Trihydro Corporation, a national environmental and engineering firm, announced today that it has completed the acquisition of California-based consulting firm Jacobson James & Associates (JJ&A). Finalized on May 28, 2021, the acquisition diversifies and broadens Trihydro's market presence and enhances the firm's ability to better serve its West Coast and national client base with expanded resources and expertise.



ReGen III signs Definitive Agreement with bp

NORA member, ReGen III Corp., formerly known as Gen III Oil Corporation, is pleased to announce that further to the Company's press release dated May 3rd, 2021, ReGen III has signed a definitive, multi-year offtake agreement with bp for bp to purchase all of the Company's base oil production from the Company's proposed 5,600 bpd US



Dirteeze partners with Moffitt for Mid-Ohio Race

David Gilliland Racing (DGR) announced that NORA member, Dirteeze, will serve as the primary partner of Thad Moffitt's No. 46 Ford Fusion for the Mid-Ohio 150 at Mid-Ohio Sports Car Course in Lexington, Ohio, when the ARCA Menards Series tackles the 13-turn, 2.258-mile road course on June 4.

"We are thrilled to partner with Thad and the lineage he represents of a solid and proven winning tradition," said Roy Scharrer, Dirteeze director. "Thad and David Gilliland Racing embody the same drive and winning principles of the Dirteeze brand and products: toughness and tenacity. Equally, we feel



this opportunity serves as a great platform to leverage awareness of our brand to a broader consumer base. We look forward to evolving and sustaining this partnership with Thad as a representative of the Dirteeze brand.”

Valicor & Lube-Tech Form Strategic Alliance, Extending Commitment to Responsible Wastewater Recycling



Valicor Environmental Services, a provider of non-hazardous wastewater treatment services, and Lube-Tech, a leading provider of advanced fluids and lubricants for the automotive, industrial and manufacturing sectors, today announced the formation of a strategic alliance. This partnership extends the companies’ shared commitment to responsible wastewater treatment and recycling. Valicor and Lube-Tech will be able to better serve their respective customer bases with greater capacity and a broader set of capabilities. Under the terms of the agreement, Valicor will expand into Minnesota by assuming operational responsibility for the centralized wastewater treatment (“CWT”) capabilities at Lube-Tech’s facility in Roseville, Minn.

Trihydro’s New Billings, Montana Office Supports High-Quality Services



NORA member, Trihydro Corporation (Trihydro), an environmental and engineering consulting firm, recently opened a new office in Billings, Montana. The new office enhances the company’s ability to serve clients in Montana and the surrounding states. Trihydro has provided services in Montana since 1997 with staff based out of the company’s existing Helena, Montana office and home offices throughout the state. Billings serves as a center of commerce for the region and Trihydro has numerous long-standing clients and working relationships in the area.

Circon Environmental Acquires Water Integrated Treatment Systems




NORA member, Circon Environmental, a portfolio company of Kinderhook Industries, LLC, announced today the acquisition of Water Integrated Treatment Systems. WITS represents the fourth add-on acquisition for Circon and Kinderhook’s 54th environmental services transaction. Finan-

cial terms of the transaction were not disclosed. “We are excited to add the WITS facilities and team to our expanding network of CWTs across the existing network of Circon locations.” says Circon CEO, Frank Lezzi.

ReGen III Signs USGC Site and Logistics LOI with Oiltanking



NORA member, ReGen III, is pleased to announce it has entered into a non-binding LOI with Oiltanking North America, LLC regarding ReGen III or its affiliate designing, constructing, owning, maintaining, and operating a used motor oil re-refinery production facility at the Oiltanking Galveston County Terminal in Texas City, Texas. At OTGAL, Oiltanking handles specialty chemicals and petrochemicals with more than 87,000 cbm of storage capacity on over 200 acres providing ample room for expansion opportunities.

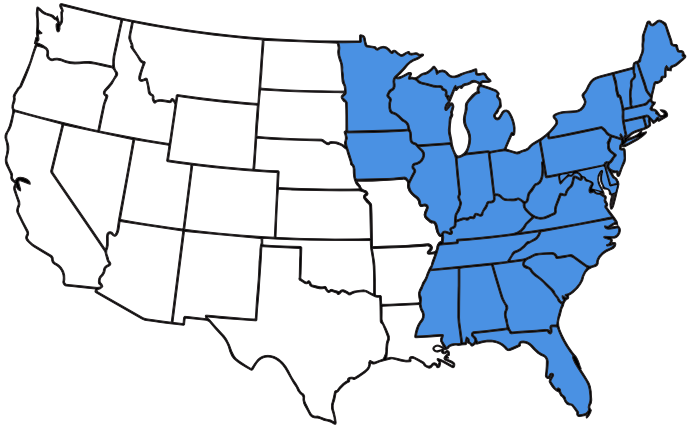


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NORA Always Confronts Threats to Part 279



NORA was founded in December 1984 and immediately went to work with EPA on developing sensible used oil regulations. The first set of used oil regulations was adopted by EPA in November 1985 and the second set was adopted in September 1992. These regulations, codified at 40 CFR Part 279, have become the tried and true “used oil management standards.” As mandated by Congress in 1984, the used oil management standards are compatible with, but exist outside of, EPA’s hazardous waste regulations, promulgated under the Resource Conservation and Recovery Act (“RCRA”).

One very important feature of Part 279 is that oily wastewater, generated by numerous different industries, is defined, classified and managed as used oil under Part 279 and EPA guidance documents. EPA has consistently stated that “... wastewater that contains used oil meets the §279.1 definition of used oil and is subject to regulation under the used oil management standards.”

Oily wastewater is currently properly managed in compliance with the Used Oil Management Standards, the commercial chemical product exclusion, CWTs’ stringent permits, 40 CFR Part 437 and other applicable provisions of the Clean Water Act.

Since its founding, NORA has dealt with various threats to Part 279. The most dangerous one was EPA’s Non-Hazardous Secondary Materials Rule which would have sentenced off-specification used oil to death by incineration. After a seven year battle with EPA starting in 2011, NORA emerged victorious. Off-spec used oil can lawfully be burned for energy recovery. Also, in the late 1980s, NORA successfully collaborated with EPA in preventing used oil from being classified as a hazardous waste.

The most recent threat emerged from Vermont. Vermont’s Department of Environmental Conservation (“DEC”) proposed the adoption of section 7-805(g) which states that if the “aqueous solution comprises greater than 50% of the overall volume of waste liquid material” and it exhibits any hazardous characteristic it will be classified as a hazardous waste. In the context of oily wastewater, this would mean that extremely large quantities would be classified as hazardous waste. This is because the used oil phase of the mixture often contains very small quantities of heavy metals, such as lead, cadmium or chromium, but enough to fail the TCLP test. Ironically, if the used oil component of the oily wastewater exceeds 50 percent, the oily wastewater would be regulated as used oil -- even though the mixture’s concentration of heavy metals would be far greater than would be present if the used oil phase was, for example, five percent of the oily wastewater.

NORA members took a careful look at this proposal and concluded that (1) it was a regulation in search of a problem; (2) it would multiply by seven the compliance costs that would have to be paid by Vermont’s oily wastewater generators; and (3) it would reverse efforts to minimize waste generation by

establishing a waste *maximization* policy. Moreover, the extremely high cost of compliance could lead to widespread improper disposal.

On August 20, 2021, NORA submitted lengthy comments on Vermont’s proposal. NORA explained in excruciating detail why proposed section 7-805(g) would be unworkable, extremely expensive and counterproductive – for numerous reasons.

Where to begin?

RCRA is a “cradle to grave” hazardous waste management system and the “grave” is proper disposal. But how do you properly dispose of tremendous quantities of oily (suddenly hazardous) wastewater? NORA’s comments pointed out that:

There are few options for disposing of wastewater as a hazardous waste. In the absence of a RCRA treatment permit and compliance with applicable Clean Air Act regulations, it would be illegal to evaporate the water. Wastewater cannot easily be disposed of in a landfill. The cost of attempting to solidify the water would be prohibitively expensive and consume immense quantities of landfill space. Also, if the landfill eventually fails and becomes a Superfund site, the wastewater generators would become liable for remediating the site.

The only other *almost* feasible option is incineration. However, there are only a handful of commercially available hazardous waste incinerators in the United States. Most of these are locked into long term contracts with hazardous waste generators. In addition, EPA’s secondary materials rule, adopted in 2018, mandates that numerous categories of solid wastes (such as discarded railroad ties) cannot be burned for energy recovery and must be incinerated. EPA Headquarters in a recent memorandum to all EPA Regions recognized this severe shortage of incinerator capacity – but offered no long term solutions.

Even if incinerator capacity was available, transportation costs would be overwhelming. The few incinerators that *might* be available are located in states that are not close to Vermont, e.g., Texas, Louisiana, and Ohio.

NORA also requested that DEC take into account other issues relating to incineration and transportation, such as:

1. the very real problem of a nationwide shortage of truck drivers;
2. the ever increasing cost of fuel (gasoline and diesel);
3. the risks of transporting waste including accidents, spills and leaks;

4. the very large “carbon footprint” that will be left by incineration, storage, and transportation; and
5. the cost of compliance with U.S. Department of Transportation’s regulation of shipments of hazardous materials.

At the other end of the cradle to grave spectrum is the generator’s duty to determine whether his or her oily wastewater is hazardous. This involves sampling and testing. NORA’s comments pointed out that

...sampling tanks containing various phases of materials presents the sampler with considerable uncertainty. Oily wastewater contained in tanks is usually comprised of four phases. At the top is floating oil; in the middle is a mixture of water with various amounts of entrained emulsions; there is the aqueous layer, and at the bottom are sludges. All of these four phases, if sampled separately, would provide wide differences in the analysis results. Moreover, were a coliwasa sampling tube used, the floating oil at the top of the tank would become attached, by surface tension, to the tube as it passed through this first phase. This would result in excessive oil being

included in the sample than is represented by the undisturbed tank. Sludge at the bottom may, or may not, be collected in the tube...

Despite these difficulties a generator is required to collect a *representative* sample of the oily wastewater. Precision would be hard to come by.

Assuming a representative sample is obtained, the next step is testing which first requires deployment of a centrifuge. The American Society for Testing and Materials (“ASTM”) has developed very detailed requirements for testing petroleum/ water mixtures using a centrifuge. These requirements are set forth in ASTM D1796 “Standard Test Method for Water and Sediment In Fuel Oils by Centrifuge Method.”

NORA’s comments also informed DEC that “the centrifuges described in D1976 cost between \$5000 and \$8000 and must be operated by trained professionals. In addition, each centrifuge test requires the use of toluene which must be discarded after each test. This discarded toluene will be a hazardous waste for ignitability (Flash Point < 140° F.) and will be an F005 listed waste for both ignitability and toxicity.” Consequently, an oily wastewater generator in Vermont who currently does not generate *any* hazardous waste will be generating hazardous waste on a regular basis if section 7-805(g) is adopted.

NORA’s comments emphasized that



...Vermont is the only state that has proposed this Draconian requirement that automatically transforms oily wastewater into hazardous waste. This is not waste minimization; quite the opposite, it is waste maximization. Even California (which has the most stringent of all used oil regulatory schemes in the United States) has not proposed any similar regulation. If section 7-805(g) is adopted, Vermont's oily wastewater generators will have a very expensive burden that is not imposed on generators in any other state in the Nation.

NORA's comments recommended that DEC carefully evaluate incineration capacity and availability as well as the costs of incineration, storage and transportation that will be imposed on Vermont's oily wastewater generators. In addition, NORA requested that DEC respond to the following questions:

First, what problem is DEC trying to solve with section 7-805(g)?

Second, what environmental benefit, if any, will be realistically (not theoretically) achieved by the adoption of section 7-805(g)?

Third, what measures will Vermont adopt to mitigate the harsh financial and physical burden that will be imposed on

Vermont's generators of oily wastewater by section 7-805(g)?

Fourth, what additional personnel and other resources will DEC need in order to implement, monitor and enforce the obligations imposed by section 7-805(g)?

Fifth, will DEC train Vermont's oily wastewater generators to accurately sample and analyze oily wastewater in compliance with applicable ASTM requirements?

Sixth, will DEC be prepared to fully investigate and prosecute the "disappearance" of oily wastewater, resulting from the financial burdens imposed by section 7-805(g)?

Seventh, does DEC intend to repeal the commercial chemical product exclusion?

Finally, what is the basis for establishing the 50 percent dividing line between non-hazardous oily wastewater and oily wastewater that constitutes hazardous waste?

Of course, NORA recognizes that Vermont is not an industrial strength player in generating oily wastewater. But that is not the point. Any threat to the used oil management standards has to be confronted swiftly and firmly. If proposed section 7-805(g) were adopted, other states might be tempted to follow Vermont's lead. Some regulators, who have been trained to enforce RCRA's hazardous waste rules, consider Part 279 to be a "giant loophole" that must be "fixed." But Part 279 is not broken – so it doesn't need to be fixed. ■

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Turning Waste Oil into Profit



By Scott Holder, Flottweg Separation Technology

The processing and use of crude oil create significant oil contaminated waste that must be treated and disposed of properly. An efficient method for processing oil contaminated waste streams is to separate it into its primary components—oil, water, and solids. Due to the increasing significance of oil, one primary objective is to recover as much oil as possible for reuse or resell. Disposing other components in the most efficient way possible is also critical.

Economics are not the only driving force behind oil recovery and waste minimization, however. The importance of environmental stewardship will increase over time. The benefits of efficiently treating and processing this waste stream include:

- Recovering up to 95% of the free oils for resell/reuse into the markets.
- Reducing up to 90% of the costs required for transport and landfill for the separated solids.
- Significantly reducing disposal costs. Only about 10% of the original quantity of slurry must be dumped.
- Reducing the waste that needs to be incinerated or landfilled.
- Reducing processing and storage times to significantly improve continuous operations.
- Improving emissions control and environmental stewardship and compliance.
- Increasing revenue and value

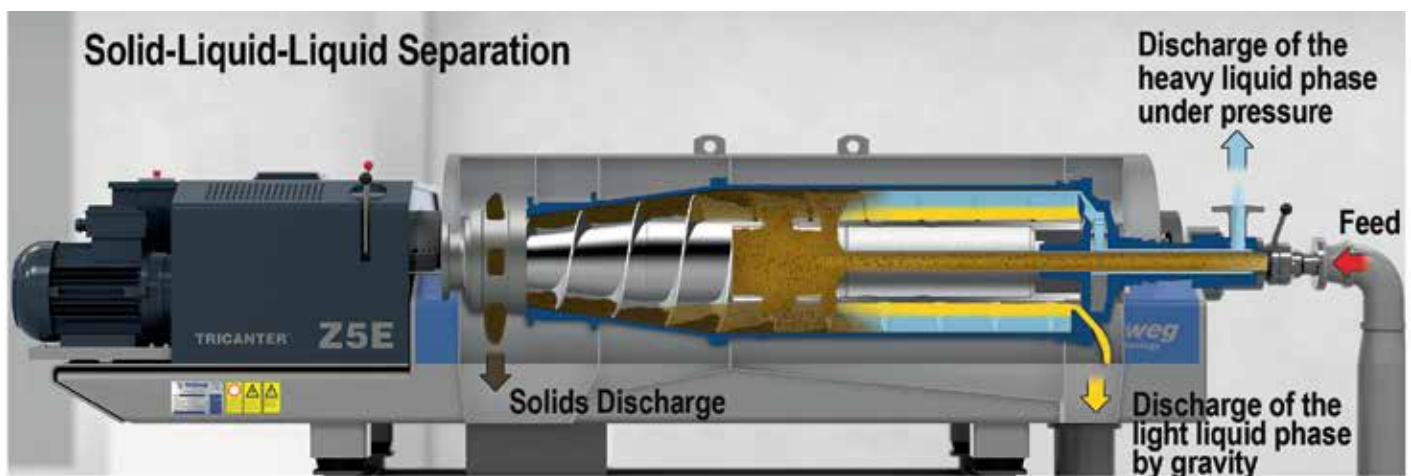
The Challenge

Traditional static separation using tanks and time can be effective, but this can also create another set of operational issues. For example, significant amounts of oil may remain with the solids or emulsions layers can formulate. The wide range of contaminated waste streams that exist today requires a system that can be adapted and changed to meet the needs of the facility. Competitive forces compound the importance of processing the customer's waste streams as efficiently as possible. To address these challenges, the use of a three-phase decanter allows for the continuous separation of oil, water and solids in a single step.

The Solution: Three-Phase Separation

Two different density liquids—such as oil and water—are required for three-phase separation. The two liquids cannot be soluble in one another, such as water and glycol. The solids must also be suspended in the liquids. In most cases, the heavy liquid phase is water, and the light phase is the oil or solvents. The driving force for separation/sedimentation must be gravity. If two liquids will separate on their own over time, they are candidates for three-phase separation.

Centrifuges are highly engineered machinery designed for a specific purpose. It is important to select a system that is specifically designed for the materials being processed. A three-phase centrifuge that is designed for corn oil will be designed and built differently than a three-phase centrifuge that is built for slop oil or tank bottoms, for example. The materials of construction, wear protection, and internal features are all specific to the application and must be considered.



Process First

Mechanical separation using a decanter is not the only part of the treatment process. Pretreatment of the waste is critical to achieve the desired separation and optimal efficiency. Simply stated, “if your process is not correct, you might as well be using a toaster to recover the oil.”

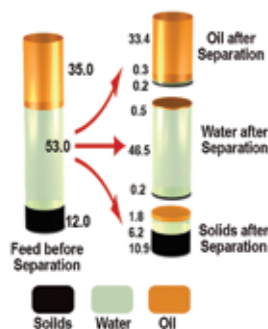
Pre-Conditioning treatment of the waste is not only critical, but it's often required. Heat is one standard treatment. Oil sludges need to be processed at 80 – 90 C. This is a standard parameter for most industrial waste with hydrocarbons. Heat reduces viscosity, speeds up sedimentation of the solids, and helps break down the emulsions.

Water is a critical part of the process and is often overlooked as a key factor for proper separation. In some cases, there is not enough water in the waste stream. Inside the system there should be enough water and oil to form two distinct layers. In cases where there is not enough water, oil recovery and oil quality will suffer. Recirculating the discharged water back into the process can resolve this issue.

Steam is beneficial for two reasons: it adds water, and it adds heat. Steam is commonly used in recovering grease and fats, because steam will boil the content of the cells and release the oils. For industrial waste, steam will help separate the oil particles from the solids, thereby enhancing the oil recovery. Steam can be one of the more efficient methods of bringing the materials up to appropriate temperature required before they are processed.

Another way to treat the waste is by using chemical flocculants and polymers to consolidate fine suspended particles. This makes them larger and allows them to settle faster. Coagulants can bring some of the dissolved particles into suspension.

Oxidizers can be used, as well, to rupture the cellular membrane and release the oil, but this is more appropriate for animal products or rendering plants. Surfactants reduce or eliminate surface tension and can help to break rag layers. De-emulsifiers can break the emulsions between water and oil.



Applications

There are hundreds of applications, including:

- Refinery slops. Anything containing hydrocarbons from refining is a very good application.
- Oil sludge or tank treatment for plants. Tank batteries, mainly around hydrocarbons.
- Tank cleaning and rail cars
- Oily wastewater treatment using a DAF (Dissolved Air Flotation.)
- Off Spec Oils
- UMO
- Tank Bottoms
- Brown Grease
- Biodiesel
 - for processing the raw material before esterification
 - for 3-phase separation of free fatty acids, glycerol, and precipitated salts, e.g. calcium sulphate, in one working procedure in glycerol processing

Fish or animal processing. Separating oils or fats from protein fillers.

Conclusion

The environment in which we work and live today is dynamic and requires environmental service companies to have dynamic business models. This includes not only sales and service models, but also capital assets and operational processes for handling and disposing of various waste streams. Three-phase centrifuge systems can be a significant asset for companies working with and processing waste streams contaminated with oils. Using a centrifuge can lead to up to 90% of the oil being recovered and reduction in waste to 10-20% of the original volume. Solids can be transported, incinerated, or disposed in a proper way. The recovered oil can be reused as valuable oil.

A company in Andrews, Texas uses a Tricanter and says, “It keeps us in the marketplace, but what it really allows us to do is get really good oil that we can sell at a better price point than if it was at 2-3%, so we get top pricing with oil that comes out of the Flottweg three-phase centrifuge.”

Additionally, a 90 % reduction of sludge dramatically reduces transportation and disposal costs. ■

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From June 9-11, 2021 over 140 industry leaders came together in Nashville, Tennessee for networking and for industry education.

During this event, NORA committees and working groups met to discuss the industry challenges and opportunities facing members.

The meeting began on Wednesday, June 9, with the 2021 EH&S Forum allowing attendees to hear presentations on:

- Maintaining a Safety Culture
- Dashcams & More
- COVID & EH&S
- The Biden Administration Impact
- Loss of Key Person: Impact on EH&S Case Study
- NORA EH&S Roundtable: Importance of Safety Uniformity

The evening of Wednesday, June 9, began the Mid-Year meeting with the Opening

Reception, sponsored by XL Insurance, Division of AXA. Thursday, attendees heard presentations on:

- New Recovery & Recycling Program for Plastic Lubricant Packaging
- Driver Shortage: The Perfect Storm
- DOT Regulatory Update

Committee meetings were held for the Wastewater Working Group, Antifreeze Working Group, Parts Cleaning Council, Conference Committee, Advanced Processors Working Group, Membership & Marketing, Guiding Principles Committee, Used Oil Recycling Council, Government Affairs Committee.

Meeting photos, and other related materials are available for members to view and download by visiting the Past Events page at: www.noranews.org/pastevents.













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NORA

Conference & Trade Show

November 10-13, 2021

The 2021 NORA Annual Conference and Trade Show is the liquid recycling industry's premier networking and education event. Now is the time to begin making plans to attend. Everything you need for your plans is included in this magazine.

TRADE SHOW

The NORA Trade Show has already booked over 40 companies displaying the latest products and services available to the liquid recycling industry. See page 28 for the NORA Exhibitor Showcase. Booths are still available. Contact Tara Wagoner at (703) 753-4277 or marketing@noranews.org to reserve your space.

SPONSOR THE EVENT

Many sponsorship and advertising opportunities are available for the 2021 NORA Conference & Trade Show. For as little as \$150, you can support your industry as well as promote your brand. For more information see pages 34-37. Reserve your sponsorship today by contacting Casey Parker at casey@noranews.org or (703) 753-4277.

REGISTER NOW

Register online to attend the Conference at www.noranews.org or complete the form on page 39.

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2021 NORA ANNUAL CONFERENCE & TRADE SHOW AGENDA

NOVEMBER 10-13, 2021 | Orlando, Florida

(Tentative, Subject to Change)

WEDNESDAY, NOVEMBER 10

| | |
|--------------------------|--|
| 11:00 AM - 2:00 PM | Exhibitor Check- In/Set Up |
| 2:00 PM - 7:00 PM | Attendee Check-In/Registration |
| 3:00 PM - 4:00 PM | NORA Board of Directors Meeting |
| 4:00 PM - 4:30 PM | NORA Board of Directors Reception for New Members/First Time Attendees |
| 4:30 PM - 8:30 PM | Grand Opening Reception in Trade Show <i>All exhibitors, attendees, registered spouse/companions welcome</i> |

THURSDAY, NOVEMBER 11

| | |
|----------------------------|--|
| 7:30 AM - 11:45 AM | Conference Check-In/Registration |
| 7:30 AM - 8:30 AM | Continental Breakfast in Trade Show |
| 8:30 AM - 10:00 AM | <i>NORA Opening Session & Keynote Speaker - Dick Vitale</i> |
| 10:00 AM - 10:30 AM | Refreshment Break in Trade Show |
| 10:30 AM - 12:15 PM | Conference Sessions |
| 10:30 AM - 11:30 PM | Spouse/Companion Brunch, Open to Registered Spouses/Companions |
| 1:00 PM - 7:00 PM | NORA Golf Tournament - <i>followed by Golf awards reception</i> <i>Pre-Registration Required</i> |
| 1:00 PM - 4:00 PM | Spouse/Companion Offsite Tour, Scavenger Hunt at Universal Studios <i>Pre-registration required</i> |

FRIDAY, NOVEMBER 12

| | |
|----------------------------|---|
| 8:00 AM - 9:00 AM | Continental Breakfast in Trade Show |
| 9:00 AM - 10:30 AM | Conference Sessions |
| 10:30 AM - 11:30 AM | Refreshment Break in Trade Show |
| 11:30 AM | Trade Show Tear Down |
| 11:30 AM - 1:15 PM | Conference Sessions |
| 1:15 PM - 5:30 PM | Fishing Expedition <i>Pre-Registration Required</i> |
| 6:00 PM - 10:00 PM | Closing Party Featuring Dueling Pianos <i>All exhibitors, attendees, speakers, and registered spouses/companions are invited to attend this great event! Wristband required.</i> |

SATURDAY, NOVEMBER 13

| | |
|---------|--|
| All day | Activities on your own (shopping, tours, departures, etc.) |
|---------|--|

*Items in bold are dedicated trade show open hours

**Items in bold/italic area trade show open hours with concurrent activities

Keynote Speaker: Dick Vitale

The Game of Life



Perhaps no one understands the game of life—and particularly how to play it with enthusiasm, energy and verve—than the inimitable Dick Vitale. Seemingly emblematic of his own last name in that he's always full of vitality, Vitale shares with audiences his secrets for tackling the problems of life head-on, with the boundless optimism he seems to possess in large amounts.

Vitale speaks enthusiastically about the lessons learned from sports and how to apply them to business and daily life. Dick uses a combination of humor and inspiration drawn from his career as a sixth grade teacher, a college and professional basketball coach, and years as one of the best known—and perhaps most beloved—network basketball analysts in history to enthusiastically present lessons learned from sports and how to apply them to business and daily life.

Biography

One of America's most beloved sports personalities, Dick Vitale exudes optimism and a boundless passion for consistently giving 110%—qualities that put him on the path towards coaching and broadcasting success. For Vitale, winning "The Game of Life" begins with a can-do attitude that he himself inspires in audiences, motivating them towards achieving their individual and organizational goals by applying lessons from the sports world.

Additional Topics

2022 Economic Forecast & Its Impact on the Liquid Recycling Market

COVID. Trillion dollar spending bills. Supply chain disruptions. Shortage of workers. \$90/barrel oil predictions. The last year and half have been economically chaotic.

As you begin to prepare your 2022 budgets and business strategies, this session will provide you with customized economic forecast for 2022 and beyond. This session will address the overall economy, how GDP will perform, oil prices, workforce challenges and much more of interest to NORA members.

Infrastructure: Legislative Impact on Asphalt & RFO Market

As Congress determines the total price point on the infrastructure legislation, it appears as if over a trillion dollars is going to be spent on roads, bridges and related items. That amount of money will have a significant impact on the asphalt and recycled fuel oil markets.

Over the past few years, the overall market share of recycled fuel oil consumed at hot mix asphalt plants has diminished. However, there are many areas where RFO is still a viable product to hot mix asphalt plants. This session will provide the latest hot mix asphalt volumes and the forecast for 2022 for you to consider for budgeting.

Help Wanted: Proven Solutions Addressing the Driver Shortage

The pandemic has exacerbated the shortage of drivers. Raising driver wages is not the only solution to improving retention, but low pay is cited as the biggest cause for the driver shortage, an issue which can no longer be avoided. In this session, attendees will hear from the industry expert on best practices on driver recruitment and retention in today's tight driver market.

Additional sessions will address:

- PFAS
- VTAE
- Government Affairs Update

2021 NORA CONFERENCE & TRADE SHOW HOTEL INFO

Loews Portofino Bay Hotel

5601 Universal Boulevard
Orlando, Florida, 32819

Room Rate: \$179/night

Book Your Room Online: www.noranews.org/2021ConfInfo

By Phone: (833) 243-4727 (*mention the NORA Group when booking over the phone*)

Group Rates Are Available:

November 6-16, 2021

AIRPORT / TRAVEL INFO

Orlando International Airport (MCO)

Distance from hotel: 16 miles

Drive time: 21 minutes

Airport Transportation Information

Uber from Airport to Hotel: Approximately \$29



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NORA Conference Exhibitors

For more information or to purchase a booth, contact Tara Wagoner at marketing@noranews.org.



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www.ptcoupling.com/index.html



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30th Annual NORA Golf Tournament

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TOURNAMENT INFO

Join your NORA colleagues on the afternoon of Thursday, November 11, 2021 for the annual NORA golf tournament at the Orange Tree Golf Club, located just a short walk from the hotel.

The tournament will take place following the opening sessions on Thursday.

Reception following golf and a hosted drink cart will be sponsorship by Dexsil.

Lunch is provided for golfers - we are seeking lunch sponsors.

REGISTER

Golf is an add-on to Conference Registration for just \$175 + \$60 club rental.

Please note that pairings are done by the event sponsor to promote competitive play between teams. Requests for specific golf pairings are unable to be honored.

ABOUT THE COURSE

Orange Tree Golf Club is a family owned and operated private golf club in the heart of the Dr. Phillips area. Designed in 1972 by Joe Lee, Orange Tree Golf Club features 7036 yards of gorgeous fairways and greens; and with six sets of tees to choose from, Orange Tree Golf Club is the perfect course for players of all ages and skill levels. For 48 years they have been considered the “hidden gem” of Orlando, with a well-deserved reputation for excellence in design and course maintenance. They are a U.S. Open Local Qualifier, and a Florida State Senior Open Qualifying course. They are widely known for having excellent greens, and they feature what many consider to be the best three finishing holes in all of Florida... “The Loop.



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NORA 2021 CLOSING PARTY

Featuring Dueling Pianos

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Join us for NORA's Closing Party on Friday, November 12 featuring an entertaining performance from the Dueling Pianos. All exhibitors, attendees, speakers and registered spouse/ companions are invited to attend this great event!

Closing Party Sponsorships are available. See page 34 for details and available sponsorship descriptions or contact Tara Wagoner at marketing@noranews.org for more information.

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Gain exposure for your company at this premier event in the liquid recycling industry. All members, even those not attending the meeting, may sponsor and advertise. For just a small contribution, you can support your industry and promote your business. All sponsors will be thanked on the NORA website with a link to your company's website, in Liquid Recycling Magazine which is distributed to 2,000 industry leaders, and in the committee book which is distributed at the event and posted on the NORA website, and on signage at the event. Contact casey@noranews.org with any questions.

EXCLUSIVE SPONSORSHIPS*

Only ONE available. Email casey@noranews.org for information on availability.

Closing Party Naming Rights

\$7500 | SOLD

Only 1 available. Available on a first come, first serve basis. Includes prominent logo placement everywhere closing party is mentioned - large signage at event, NORA website, Conference Book cover, Liquid Recycling magazine, conference agenda and on each table at closing party. Also includes all Level 1 Closing Party Sponsor benefits.

Premier Sponsor

\$5000 | SOLD

Your logo will be featured on the front cover of the Conference Book and on all name badges. You receive the back cover ad of the conference book. Your company will be thanked at the opening session and your logo will be screen-printed on the tote bags distributed at registration.

Water Bottle Sponsor

\$2900 | SOLD

Your logo will be printed on single use bottles of water that will be set at every seat at the beginning of the conference on Thursday morning.

Hand Sanitizer Sponsor

\$2900 | SOLD

Only one available. Your logo will be printed on the front of bottles of hand sanitizer distributed at registration.

Lanyard Sponsor

\$2900 | SOLD

Only one available. Your company logo will be printed on the lanyard distributed to all attendees.

Notebook Sponsor

\$2900 | SOLD

Your logo will be on the notebook placed at each seat at the beginning of the conference on Thursday morning.

Audio / Visual Sponsor

\$2900 | SOLD

Your logo will be prominently displayed when the "splash screen" is displayed in the main meeting room. As an added bonus, a free full page color ad in the conference book is included (a \$625 value).

Can Cooler Sponsor (Coozie Style)

\$1500 | SOLD

Your company logo will be printed on the can coolers placed next to the bars in the Trade Show.

Lip Balm Sponsor

\$1,000

Your company logo will be printed on the lip balms placed in the conference bags distributed to attendees.

NON-EXCLUSIVE SPONSORSHIPS

Level 1 Closing Party Sponsor

\$5000 | Only 4 available. Your logo will be featured on the front cover of the Conference Book, on a commemorative photo jacket, and displayed at the Closing Party. You also receive a reserved table for ten registered attendees/companions in premier location at the closing party, Closing Party Sponsor ribbon on badge, recognition at Closing Party dinner, full page color ad in Conference Book (\$625 value), color logo with company/exhibitor index in Conference Book, and logo on the "thank you" page in post-Conference Magazine.

\$2000 | Only 8 available. Your logo will be featured on the front cover of the Conference Book, on a commemorative photo jacket, and displayed at the Closing Party. You also receive a Closing Party Sponsor ribbon on badge, recognition at Closing Party dinner, half page color ad in Conference Book (\$475 value), color logo with company/exhibitor index in Conference Book, and logo on the "thank you" page in post-Conference Magazine.

Keynote Speaker Sponsor

\$2000 | Your company will be thanked prior to the speaker's keynote address and your logo will be prominently displayed. In addition, you will have an exclusive opportunity to meet with the speaker before the event and will receive a signed copy of the speaker's book.

Gold Sponsor Bundle

\$1800 | Your logo will be printed on the front cover of the Conference Book and on large signage at the event. You receive a free full page color ad in the event book and your company will be thanked at the opening session. Includes a golf hole sponsorship and company logo printed on the conference bags. For logo on bag, please order by Oct 1 (10 available). For purchases after October 2, a level 4 closing party sponsorship will be substituted for the bag sponsorship.

Drink Ticket Sponsor

\$1000 | Your logo will be printed on the drink tickets for the Wednesday Opening Reception and your company will receive extra drink tickets for the event. Please order by Oct. 15 to allow time for printing.

Level 3 Closing Party Sponsor

\$1000 | Only 12 available. Includes: Name on front cover of Conference Book, logo on Commemorative Photo Jacket, logo displayed at Closing Party, Closing Party Sponsor ribbon on badge, recognized at Closing Party dinner, black and white logo with Company Listing in Conference Book, logo on "Thank You" page in post-Conference NORA Magazine.

Floor Sponsor

\$800 | Your full-color logo or ad will be displayed on 3 large floor decals in the lobby of the conference center.

Event Page Logo

\$600 | Your company logo on the main event page on NORA website.

Bag Sponsor

\$550 | Your logo will be printed on the conference bags distributed to attendees. Available through October 2 to allow time for printing.

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\$500 | Your logo will be featured on a commemorative photo jacket and displayed at the Closing Party. You also receive a Closing Party Sponsor ribbon on badge, recognition at Closing Party dinner, black and white logo with company/exhibitor index in Conference Book, and logo on the "thank you" page in post-Conference Magazine.

Golf Lunch Sponsor

\$500 | Your company will be recognized on the box lunches placed in each cart at the start of the tournament. This sponsorship includes a Golf Hole Sponsor Sign.

Grand Opening Exhibit Reception

\$450 | Your logo will be prominently displayed on all signs for the reception and printed next to the event on conference agendas.

Charging Station Sponsor

\$400 | Your logo will be prominently displayed at a charging station near the registration desk to supply power for mobile devices.

Bag Insert Sponsor

\$325 | You provide the insert and NORA will distribute it in the conference or golf bags. Examples include hats, coozies, fliers, etc. Please deliver items to hotel by November 8.

Thursday Morning Break Sponsor

\$300 | Your company logo will be displayed during the morning break on Thursday. Your company logo will appear on all Conference schedules.

Friday Morning Break Sponsor

\$300 | Your company logo will be displayed during the morning break on Friday. Your company logo will appear on all Conference schedules.

Spouse Brunch Sponsor

\$300 | Your logo will be printed next to the event on conference agendas.

Level 5 Closing Party Sponsor

\$250 | Your logo will be prominently displayed on signage at the breakfast and included next to this event on conference agendas.



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Thursday Continental Breakfast

\$250 | Your logo will be prominently displayed on signage at the breakfast and included next to this event on conference agendas.

Friday Continental Breakfast

\$250 | Your logo will be prominently displayed on signage at the breakfast and included next to this event on conference agendas.

Golf Hole Sponsor

\$225 | Your logo will be printed on a sign placed at one of the holes during the golf tournament.

Candy Bowl Sponsor

\$175 | Your logo will be displayed around the NORA Candy Bowl at the registration table. - Only six available Bottom of Form

ADVERTISING IN CONFERENCE BOOK

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| BACK COVER AD (included with Premier Sponsorship) | |
| \$1100 | Inside Front Cover Ad* SOLD |
| \$950 | Inside Back Cover Ad* SOLD |
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| \$475 | Full Page Black/White Ad (7.5" x 10") |
| \$475 | Half Page Color Horizontal Ad (7.5" x 5") |
| \$260 | Half Page Black/White Horizontal Ad(7.5" x 5") |
| \$375 | 1/3 Page Horizontal Color Ad (7.5" x 3.5") |
| \$200 | 1/3 Page Horizontal B&W Ad (7.5" x 3.5") |
| \$275 | 1/4 Page Horizontal Color Ad (3.75" x 5") |
| \$200 | 1/4 Page Horizontal Black/White Ad (3.75" x 5") |
| \$150 | Color Logo By Company Index (1/2" high) |
| \$150 | Color Logo By Exhibitor Index (1/2" high) |

**Only ONE available. Email casey@noranews.org for information on availability. To receive full promotional consideration in print materials, please submit sponsorships by October 1, 2021. After this date, sponsorships are still welcome but may receive different promotional consideration.*

Non-Members add \$1000 to purchase price of all sponsorships.

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Orlando, Florida • November 10-13, 2021

2021 NORA Conference Registration Form

Complete one form for each person. Only one form required to include payment information.

EXHIBITORS: Do Not Use This Form - Use Exhibit Agreement Form or Additional Booth Personnel Form.

Contact Info

| | | | |
|---------|-------|--------------------------|-----|
| NAME | | BADGE NAME, IF DIFFERENT | |
| COMPANY | | | |
| ADDRESS | CITY | STATE | ZIP |
| PHONE | EMAIL | | |

Registration Choices

Full Registration (you may assign/change names to the registration at any time) includes all conference sessions, conference materials, opening reception (members only), two continental breakfasts, breaks and Friday Night Closing Party Dinner. Payment must be faxed or postmarked by the dates to be eligible for the discounted prices.

PRICES

| | Regular <i>(paid by October 22)</i> | Late <i>(after October 22)</i> |
|--------------------------------|--|-----------------------------------|
| NORA Member: First person | <input type="checkbox"/> \$860 | <input type="checkbox"/> \$890 |
| NORA Member: Additional person | <input type="checkbox"/> \$760 | <input type="checkbox"/> \$790 |
| Non-Member: First person | <input type="checkbox"/> \$2400 | <input type="checkbox"/> \$2500 |
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- Spouse/Companion: Friday Only.....\$209**
- Golf.....\$175
- Golf Club Rental.....\$60
- Spouse/Companion Tour.....\$165

If you selected spouse/companion package, please enter their name here: _____

If you selected golf, please include your average score: _____

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PFAS

The extraordinarily costly liability you need to know about

By Karen M. Reilly, Vice President, Product Line Manager, Ironshore Environmental

A new and massively costly complication is changing environmental liability: cleanup of hazardous per- and polyfluoroalkyl substances (PFAS) found in aqueous film-forming foams or AFFFs. Commonly used throughout the United States, these Class B firefighting foams are used to extinguish fires involving flammable and combustible liquids, oils, gases, and more. PFAS are held to some of the toughest cleanup standards among regulated contaminants. To make matters more challenging, there are few technologies proven to do the job as well as many associated costs.

Cleanup costs of PFAS compounds in AFFF can be 5 to 20 times more than those of fuels released from a petroleum storage facility

What creates such high costs?

PFAS waste is managed by waste disposal companies as a federal hazardous waste. Disposal costs are often nearly double the typical cost of disposal of petroleum-impacted waste. There are a number of factors at work here:

- **Limited soil treatment options.** The only proven methods for treating PFAS in soil are excavation followed by landfill disposal or destruction via incinerator – both of which are costlier than methods used to dispose of other contaminants.
- **Limited soil treatment resources.** Because of the potential for extraordinary liability, only a limited number of landfills and incinerators accept PFAS waste.
- **High transport costs.** With facilities few and far between, transporting PFAS-impacted soil can be four times higher than transporting petroleum-impacted waste.
- **Limited groundwater treatment options.** Only ex-situ technologies that include groundwater extraction wells and above-groundwater treatment systems with granular activated carbon or ion exchange resins are proven to treat PFAS in groundwater.



- **Long-term groundwater costs.** A groundwater extraction and treatment system may need to operate for as long as 40 years, entailing significant operation and maintenance costs.
- **Strict federal standards.** The acceptable rate of PFAS is notably low, requiring a greater effort and more funds to achieve.

Breaking down cleanup costs

This outline of cleanup costs associated with PFAS contamination following a typical energy industry fuel fire shows the considerable scope of this threat.

\$2.25M

Collection and disposal of 1M gallons of AFFF, water, and fuel at hazardous waste management facility

\$12M to \$54M

Projected cost for soil cleanup

\$10M to \$15M

Projected cost for groundwater cleanup

\$1.8M

One year of stormwater runoff management (collection, transport, and disposal of 800,000 gallons of runoff at hazardous waste management facility)

TOTAL COSTS

\$26.05M to \$73.05M

How can vulnerable companies prepare?

- Recognize that PFAS will be a massive exposure both in the energy sector and for other organizations that rely on AFFF materials to extinguish fires.
- Factor PFAS containment and cleanup into all loss control evaluations. Even if AFFF isn't stored on site, it's highly likely that it will be introduced in the event of a fire, through the fire department, as a result of reciprocity agreements with other terminal operators, or via historic stockpiles. ■

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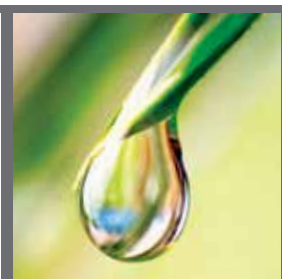
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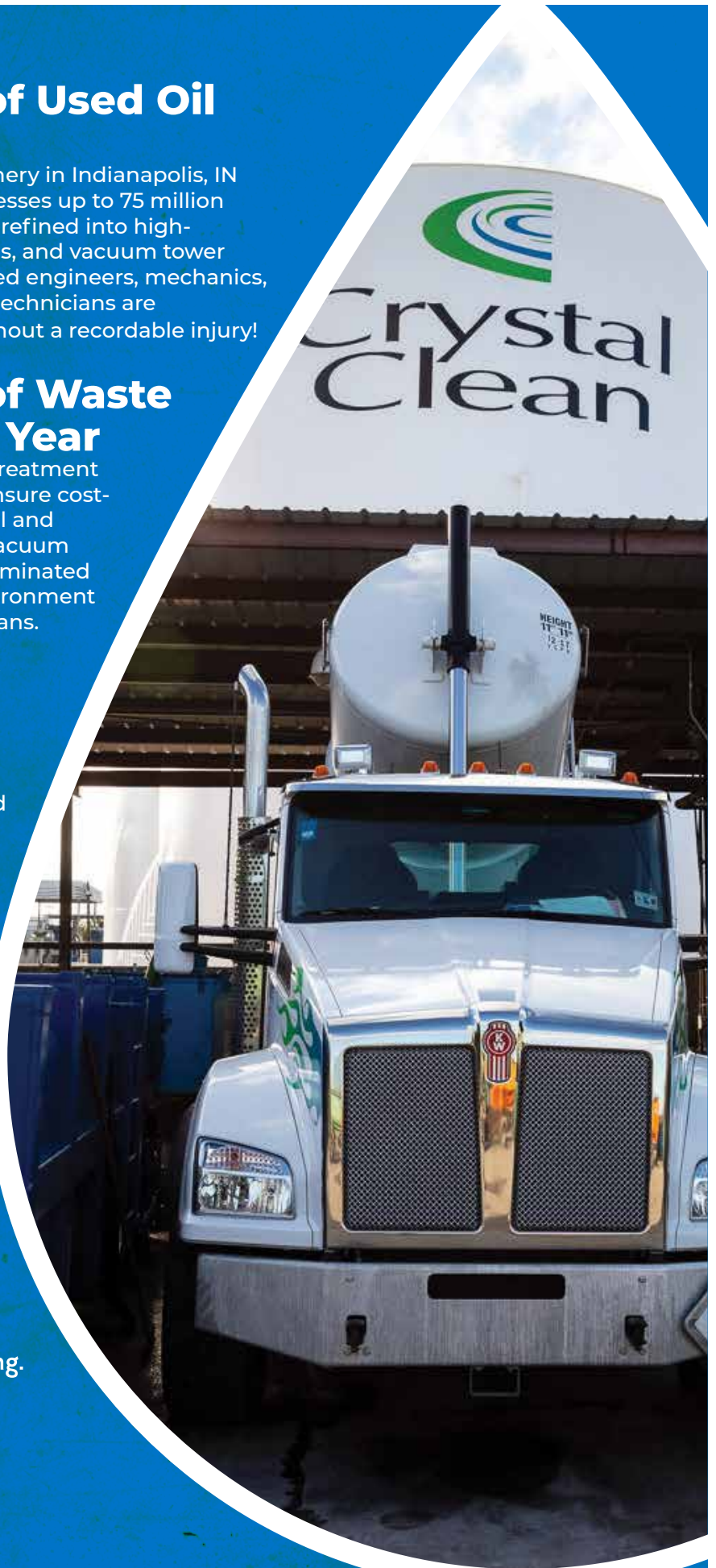
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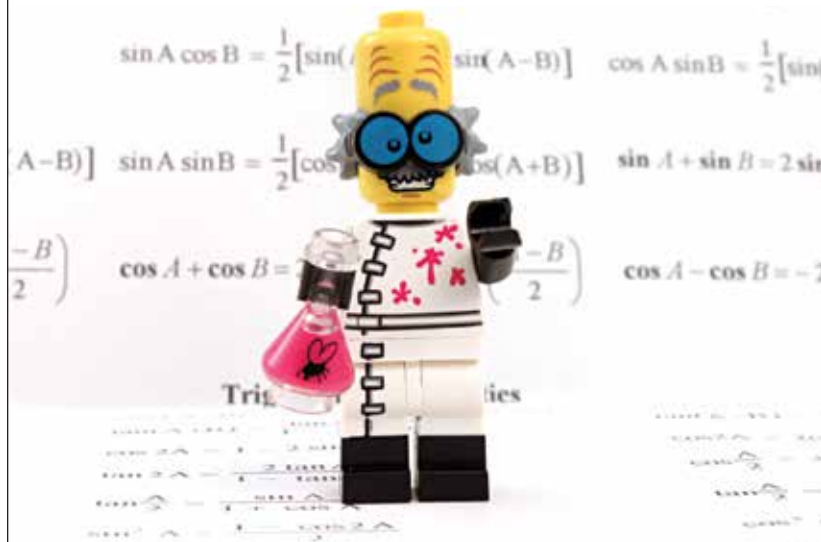
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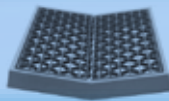
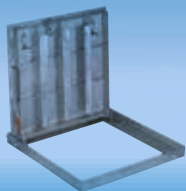


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